

REMARKS

Claim 19 has been canceled herein. Such cancellation is without prejudice on the merits. Claims 1-18 remain active in the case. Favorable reconsideration is respectfully requested.

Request to Withdraw Finality:

Applicants hereby request reconsideration of the Final Rejection as being premature. This request is being made in the event Applicants elect to petition to withdraw the finality of the rejection. (According to 37 CFR §1.181(f), a petition to withdraw finality may only be filed where reconsideration of the final rejection is requested within two months of its issuance.

Applicants respectfully submit that the finality of the Office Action dated January 4, 2006 is premature and inadvertently issued because, as per MPEP 706.07(a), a second (or subsequent) Office Action cannot be final where a new ground of rejection is introduced that is neither: (1) necessitated by Applicants' amendment of the claims; nor (2) based on information submitted in a late-filed information disclosure statement (that is, and IDS filed during the period set forth in 37 CFR §1.97(c)). In the present situation, Applicants' amendment did not necessitate the new rejection; and Applicants have not submitted any new references for consideration. The Muhlebach et al. patent is newly cited in the Final Office Action, and its late entry by the Office was not necessitated by Applicants' amendment to the claims. Thus, the finality of the Office Action is premature.

More specifically, please note that each of Claims 6, 12, and 16 were rejected over a combination of Bon et al., McKinney, and Krogh et al. in the first Office Action dated July 22, 2005. All three of these claims recite reacting the reactants in an "aromatic, non-polar, aprotic solvent." None of Claims 6, 12, and 16 were amended. In response to the July 22, 2005.

Applicants note that the corresponding base claims (Claims 1, 11, and 15) were amended, but only to insert the qualifier that the solvent had to be an "aromatic, aprotic solvent." But these limitations have been present in Claims 6, 12, and 16 since the

application was filed, and Claims 6, 12, and 16 **have not been changed**. Applicants' amendment cannot have necessitated the new grounds of rejection because the scope of Claims 6, 12, and 16 remains **exactly the same as when the application was filed**.

Because Applicants' amendment did not necessitate the new grounds of rejection, the finality of the Office Action does not meet the criteria of MPEP 706.07(a).

Applicants respectfully request that action on this application simply proceed as if the rejection was not made final, (with the response date being reset accordingly). In accordance with MPEP 706.07, the Applicant is seeking to define the invention in terms of allowable claims, is not seeking to delay prosecution, and is trying to clarify all issues prior to appeal (if appeal should be necessary). Thus the finality of the Office Action dated January 4, 2006 should be withdrawn so that these issues are fully and fairly heard.

Rejection of Claims 1-18 Under 35 USC §103(a) Over Bon et al. (1994) *J. Org. Chem.* 59:4035-4036, U.S. Patent No. 5,395,974 to McKinney, U.S. Patent No. 5,587,498 to Krogh et al. and U.S. Patent No. 6,281,307 to Muhlebach et al.:

This rejection is respectfully traversed because (1) there is no motivation to combine these four references in the first instance; and (2) even when the references are combined, they do not provide a reasonably likelihood of success in arriving at the present invention.

With respect to a lack of motivation to combine the references, Applicants note that to establish a *prima facie* case of obviousness, it is the applied references themselves that must contain some suggestion or motivation that they be combined. In the present situation, however, the references, do not contain any such motivation because they are directed to very different technologies.

Specifically, the Bon et al. paper is a very short document, with an extremely narrow subject range. The entire disclosure of the Bon et al. paper is limited to transamidation reactions that take place in the presence of aluminum chloride, using only dichloromethane as a solvent. No other catalyst or solvent is mentioned.

In contrast, the McKinney patent (which is directed to the ammonolysis of nylon), and the Krogh et al. patent (which is directed to a reaction to amidate a carboxylic acid) do

not use solvents at all. In both documents, the reactants are introduced neat into a high-pressure reaction chamber.

The newly cited Muhlebach patent is directed to an entirely distinct and wholly unrelated subject, namely compositions comprising unsaturated polymers having a strained cycloalkene ring within the backbone of the polymer. These polymers can be cross-linked via a metathesis polymerization reaction involving the strained cycloalkene ring. See column 62, lines 42-60 of Muhlebach. This subject matter is wholly unrelated to any of the three previously-cited documents.

There is no motivation within any of the three earlier patents to suggest or motivate their being combined with the Muhlebach et al. patent. As noted earlier, the Bon et al. patent uses but a single solvent, dichloromethane. And the McKinney patent and the Krogh et al. patent do not describe any solvent at all. So how can these three references suggest a further combination with Muhlebach et al, or Muhlebach et al. suggest a combination with any of the three earlier cited references?

Applicants respectfully submit that the Office is improperly using Applicants' own disclosure to provide the motivation that is lacking in the applied prior art. However, the Office is not free to use Applicants' own disclosure in this fashion. Applicants' disclosure is not part of the prior art. The motivation or suggestion to combine references must come from the references themselves.

Because the four applied references do not contain any motivation for them to be combined, Applicants respectfully submit that the Office has failed to establish a *prima facie* case of obviousness with respect to the present claims.

Applicants also submit that it appears that the Office is applying the discredited "obvious to try" standard in place of the proper "obvious" standard. *In Re O'Farrell*, 7 USPQ2d 1673 (Fed. Cir. 1988), outlines when an invention is obvious, and therefore unpatentable, versus when an invention is obvious-to-try, and therefore patentable. The Court noted two instances in which a claimed invention is only obvious-to-try. First, an invention is merely obvious-to-try if it is necessary:

to vary all parameters or to try each of numerous possible choices until one possibly arrived at a successful result, **where the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful.** (7 USPQ2d at 1681, emphasis added, citations omitted.)

This scenario is clearly applicable in the present instance. Bon et al. describes one solvent, dichloromethane. The McKinney patent and the Krogh et al. patent do not describe any solvents. The passage at column 32 of Muhlebach et al. lists no less than fifty-five (55) specific solvents by name, and twelve (12) generic types of solvents (ethers, halogenated hydrocarbons, carboxylic acid esters, lactams, sulfoxides, sulfones, tertiary amines, aromatic hydrocarbons, substituted benzenes, and nitriles. The only type of solvent singled out by Muhlebach et al. as being preferred are **polar protic** solvents. See Muhlebach et al., column 32, line 42. The present claims, however, require **aromatic aprotic** solvents (*e.g.*, Claim 1) or aromatic, aprotic, non-polar solvents (*e.g.*, Claim 6). Where in the entire combination of the four references does the prior art give any indication of the criticality of the solvent or the temperature at which the reaction is conducted? Where in the entire collection of references is there any guidance to select a aromatic aprotic solvent, when Muhlebach et al. clearly teach that a polar protic solvent is preferred?

The combination of prior art simply cannot provide any indication of which parameters are critical, nor can the combination provide any direction as to which of many possible choices is likely to be successful because combination of cited references do not teach using a aromatic aprotic solvent and low temperatures in the context of amide metathesis or transamidation reactions.

Additionally, the primary reference to Bon et al. clearly evidences the difficulty of these types of reactions. Table 1 of Bon et al. contains five entries where the reaction yield was **zero**. (See entries 6, 7, 8, 17, and 18 of Table 1.) These reactions simply failed; they did not happen at all. Entry 4 in Table 1 of the Bon et al. paper yielded only trace amounts

of product; entry 15 yielded only 7 percent product. Applicants submit that the Examiner has improperly discounted these data regarding the unpredictability of the field.

Second, an invention is only obvious-to-try where the inventors:

explore[d] a new technology or general approach that seemed to be a promising field of experimentation, **where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it.**" (*Ibid.*, emphasis added.)

With respect to this second scenario, the applied prior art fails even to provide any general guidance regarding the claimed invention. Bon et al. uses dichloromethane for a solvent. The McKinney patent and the Krogh et al. patent do not use any solvents. The Muhlebach et al. patent includes a huge list of solvents that are not for conducting an amide metathesis reaction or a transamidation reaction at all (as required by the present claims). Muhlebach's huge list of solvents are for conducting a metathesis cross-linking polymerization involving a strained cycloalkyl ring. See column 62, lines 42-60 of Muhlebach et al.

Moreover, obviousness requires that the predictability and/or necessity of experimentation to arrive at the claimed invention be evaluated in terms of the invention as a whole, and not as a sum of its parts. See, for instance, *Hybritech Inc v. Monoclonal Antibodies, Inc.*, 231 USPQ 81 (Fed. Cir. 1986). Here, the Court held unobvious a method of using *monoclonal* antibodies of defined specificity in a prior art process which utilized *polyclonal* antibodies. The Court noted that prior art references which discussed the production of monoclonal antibodies may constitute an invitation to try monoclonal antibodies in the prior art immunoassays, but that the prior art did not render the claims obvious because they did not suggest how that end might be accomplished. In short, the Court held that:

focusing on the obviousness of substitutions and differences instead of on the invention as a whole...[is] a legally improper way to simplify the difficult determination of obviousness. (231 USPQ at 93.)

As noted above, Applicants also respectfully reiterate that the passage from the Muhlebach et al. patent cited by the Office is taken out of context. Specifically, at page 3 of the Final Office Action, the Office writes:

The difference between the references and the herein claimed process... is that the references [do not] teach aromatic, aprotic solvents for the process. Muhlebach et al. is cited to show that in the process of transamidation and metathesis, use of [an] aromatic, aprotic solvent is old in the art. See, for example, column 32, lines 12-38.

However, the cited passage **does not** show that using an aromatic, aprotic solvent for transamidation or amide metathesis reactions. Applicants direct the Office's attention to the immediately previous paragraph in Muhlebach et al., which states:

The composition according to the present invention can comprise solvents, **especially if it is used for the production of coatings.**

See Muhlebach, column 32, lines 9-11. The list of solvents refers to solvents present in the finished product, not the solvents used to make the monomers, or the non-cross linked polymers. In short, the list of solvents recited at column 32 of the Muhlebach et al. patent is for when the composition is to be used as a paint, in which case the polymers undergo a cross-linking reaction by metathesis polymerization. See column 62, lines 42-60 of Muhlebach et al. The metathesis reaction described by Muhlebach et al., however, **is not** an amide metathesis reaction, which is **required** by the present claims. Muhlebach et al. describe a metathesis cross-linking reaction involving the strained cycloalkene ring found in the back bone of Muhlebach's polymers. See column 62, line 55 of Muhlebach et al.

Thus, the **combination** of Bon et al, McKinney, Krogh et al. and Muhlebach et al. does not teach or suggest running a transamidation or amide metathesis reaction in an aromatic, aprotic solvent.

Briefly recapping, footnote 13 of the Bon et al. paper, at page 4035, left-hand column. Footnote 13 recites the experimental conditions used by Bon et al.:

In a typical experiment [the] amide... and [the] amine... were added to a suspension of aluminum chloride... in 1,2-dichloromethane... at 0°C. The mixture was then stirred at rt, or if necessary at 90°C....

In short, dichloromethane is the only solvent mentioned in the Bon et al. paper.

Dichloromethane is not an aromatic solvent, which is required by the language of the claims as amended.

Combining Bon et al. with both the McKinney patent and the Krogh et al. patent does not cure the shortcomings of the Bon et al. paper because the reactions described in McKinney and Krogh et al. do not use a solvent at all. The reactants are introduced into a high-pressure reaction chamber (along with a catalyst) and the reactions are induced by increasing the temperature and pressure with the reaction chamber.

Muhlebach et al. describes metathesis polymerization reactions involving cycloalkenes within the back bone of the polymer. Nothing in the Muhlebach et al. patent suggest running an amide metathesis reaction (as required by the present claims) in an aromatic, aprotic solvent

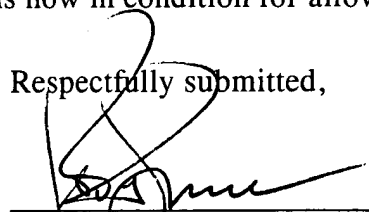
Thus, the combination of references does not teach conducting a transamidation reaction or an amide metathesis reaction in the solvents recited in the claims as amended.

Applicants therefore submit that the rejection of Claims 1-18 under §103(a) in view of Bon et al., McKinney, and Krogh et al. is improper. Withdrawal of the same is respectfully requested.

CONCLUSION

In light of the above amendment and remarks, Applicants submit that the application is now in condition for allowance. Early notification of such action is earnestly solicited.

Respectfully submitted,


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